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ROSA RUGOSA.

PAINTED FOR
JAMES VICK SEEDSMAN



FEBRUARY, 1886.

A SEASON of preparation for the cultivator is afforded by the winter rest of vegetation. In the selection of seeds and plants one needs to call to his aid all his experience, information and judgment. Good methods and skill in cultivation, though of prime importance, need to be supplemented by the intelligent selection of the most appropriate varieties of all that one cultivates, whether fruits, flowers or vegetables. This selection will be made in view of the ultimate use made of the crop; the grower for the market will need some varieties different from the amateur. One hardly looks into a nurseryman or seedsman's catalogue without the thought occurring that a great number of varieties might be discarded; but a closer acquaintance with the demands of the trade, shows that a great number of varieties are needed to suit the diversified climates and soils of the country and the tastes of the people. There is no variety that is best for all places; personal experience and observation are of high value in determining what is best in given circumstances; if we have not had this experience ourselves, we can seek the assistance of neighbors who will usually give good advice. In almost every locality there are at least a few persons who are sufficiently progressive in spirit to test new sorts, and who can discriminately direct a novice in horticul-

ture in regard to many things. Horticultural and agricultural papers render great service to the public in gathering and disseminating information in regard to the different varieties of cultivated plants, and cultivators could help each other even more than they do by carefully taking notes of their crops each season, and publicly reporting them through some journal. We hope that our own readers will freely make use of the pages of the MAGAZINE to interchange their observations on all garden subjects. What is needed is the variety of experiences as modified by climate and locality. Such reports in regard to garden vegetables are specially desirable at this time, and but little less so pertaining to fruits; of the last, many new kinds are now before the public of the value of which comparatively little is known. We do not under-estimate the importance of the work done by the American Pomological Society in tabulating its reports on fruits, it is of inestimable worth to the whole country. But we need fresh reports from new localities on fruits both new and old. It is a subject of practical interest, ever-changing in form with the changes of seasons and places. As to fruit growing for market we do not now propose to say anything further than that the business is apparently in a transition state, and that cool heads and skillful hands

are necessary to manage it. But fruit-raising for the family cannot be too well attended; the fruit garden and the vegetable garden should receive far greater attention by country and village residents, and this advice we would not confine to those who are in comfortable circumstances, but would extend it to those daily toilers who depend upon their own strong arms to work out their needed maintenance. Every working man who has the opportunity to make a garden should get from it a large part of the necessary food for his family; even if he should be obliged to leave his regular occupation a few days, he will find that it will be to his advantage to keep his table supplied the year round with the vegetables of his own cultivation. Those who reside in large towns and cities cannot take this course, but it is open to all villagers and country dwellers.

The remark is often made that farmers are poor gardeners, and it is too true in most cases. Farmers' families, as a rule, are far more poorly supplied with vegetables than city residents. Not more than a quarter of the farms in this region show anything better in the way of garden produce than a little Sweet Corn and some Bush Beans and a few Tomato plants, and possibly even these last are wanting. The field crop is depended upon to supply the Potatoes that are wanted, and, perhaps, some Turnips will be raised in the fall, some years, as a second crop. What a miserable showing is this for those who are situated so that the choicest vegetables of the garden, the various kinds in their season, might appear in abundance on their tables, provided the necessary care and labor should be given to produce them. But this picture is not overdrawn; it is, unfortunately, too true, and it is not less true that if we inquire about the family fruit supply for country tables we shall find this quite as deficient, or even more so. There is no necessity for this condition of things, and it is opposed both to the physical and financial interests of these families. No part of the farm can make greater returns for the labor and other expenditures than the vegetable and the fruit garden. If we inquire into the cause of their neglect, we shall find, in many cases, that their importance is measurably comprehended, and the want

of them is felt, but the labor and attention they require are somewhat different from that of the farm crops, and, also, the garden interferes, to some extent, with the farm work when it is not properly planned and managed, as for the most part it might be, so as to cause little or no inconvenience in the performance of the regular work. And for this purpose we now ask our country and village readers who are directly interested to give the necessary thought for the preparation of a good garden at this season of comparative rest. What shall the garden consist of? How and when shall it be prepared? Who shall have the direct supervision of it? These and other questions can be considered and decided upon, and when the time of action comes there need be no delay.

The housewife should specially interest herself in the garden, and, in most cases she will find that her interest and influence will be magnetic, and will enlist the sympathy and service of the other members of the family. The country and the village table should show the tenderest, crispest Radishes, the best, the most buttery, the best blanched, the most refreshing Lettuce, and the earliest Spinach, the Cucumbers direct from the vines, never subject to wilting, should be crisp, juicy and cool with their own peculiar aroma that is so gratifying. City residents are supplied with Cucumbers, but usually they are a snare and a delusion, not once in twenty times can good Cucumbers be bought at a city stand; we do not say that they cannot be so handled and kept as to be offered to customers in prime condition, we know that they might be, but they are not—they are almost universally wilted, tough and worthless, and this is the cause of the bad name they have associated with them. Good, fresh Cucumbers can be eaten every day in the year without injury.

Asparagus is another vegetable that is often injured by exposure to sun and air before reaching the consumer. One can take it from his own garden and serve it in perfection. Peas and Beans, with proper care in sowing, can be in use all through the summer and fall. The tender varieties of Cabbage, such as are seldom or never offered in market, can be enjoyed from one's own garden, and then there are the Cauliflowers and young

Beets and Egg Plant, fruits which can be used without being subjected to the wilting process. We need not mention other vegetables that the good garden affords, and the various salad plants, of which a principal one is Celery and which the city purchaser often gets in a most unsatisfactory state. Nor need the garnishing and condiment herbs be noticed in detail, but how much they add to the appearance of the table, and the savoriness of its dishes. How many farmers and village dwellers with ample grounds raise a supply of Strawberries for their own families? We cannot answer this question positively, but the proportion is very small, inexcusably so when we consider how easily this fruit is raised, and how productive it is. To this class Strawberries are a luxury far more than to residents of cities, while every country resident ought to have this fruit in its season in abundance; it being regularly brought to the table for a month. And how different it is taken direct from the beds and served immediately, from what we find it after it has been carried by rail and wagon for a hundred or five hundred miles, bruised and bleeding, perhaps dusty, and its flavor more or less impaired! Do we need to say a word to remind our readers of the ease with which Raspberries, Blackberries, Currants and Gooseberries can be grown, or in regard to the grateful Grapes, that can be produced on the fences or trained up the sides of the barn or stable, if no other accommodation is afforded them.

Two or three full grown Cherry trees will afford a family an ample supply of

this fruit, and it is one that never tastes so well as when eaten direct from the tree; it depreciates badly by handling and carriage. A few trees each of Plums, Peaches, Quinces, Pears and Apples will complete the needed supply for the whole year; all require but little space comparatively, and this can be further economized in most places, if desired, by the employment of dwarf Pear and Apple trees.

These brief hints of some of the physical comforts that a good garden can supply are offered to encourage and stimulate our readers in garden pursuits; there is a strong incentive for every country home to have its garden, and a good one—it will pay.

But while we regard the garden in this light, we are not forgetful that there is a higher man than the physical, there are higher wants than those of the body; while we are striving to minister to these we are still seeking the same ends that actuate the lower animals, though in a far better and an intelligent way. The garden can, in a measure, satisfy the soul-longings for the beautiful. The smooth, grassy lawn with its handsome trees of varied forms and foliage, the climbing vines that embower the porches, the flowers of every type and tint, these gratify wants that are felt by the higher man. As we make our homes beautiful by ornamenting our grounds with trees and plants, we are educating ourselves and our children in a higher life—a life distinct from that of the brute creation, and which is the glory of man, the lord of the earth.

COMMON VIRGIN'S BOWER.

As we see it growing wild along country roads, clambering over fences and stone piles, and climbing upon shrubs and low-growing trees, our native Clematis, *C. Virginiana*, forms a drapery of beauty that hides many ugly objects and rough forms. This plant has an abundance of foliage, climbs and fastens itself by means of its leaf-stems, which it coils about small trees and branches, and in this manner will rear itself to a height of fifteen to twenty-five feet. Its stem is woody and capable of enduring the lowest temperatures of the northern portion of this country, and it is, therefore, a

most desirable plant for training over porches and verandas and along fences, wherever a climbing plant is desirable. For this purpose it is of secondary value only when compared with the Virginia Creeper. But it is when in full bloom, at midsummer, that its beauty is at its height, and then it is second to no other climber. The flowers, which are about half an inch or a little more in diameter, are whitish, a yellowish white, borne in the greatest profusion, fragrant and nectariferous, a paradise for bees. The stamens and pistils are borne on separate flowers, which are either produced on the



CLEMATIS VIRGINIANA—FROM A PHOTOGRAPH.

same plant or on separate plants. Something of the blooming habit is shown in the accompanying engraving, but the flowers are often so abundant as almost to obscure the foliage, appearing as an extended sheet of white bloom.

The natural range of *C. virginiana* in North America is from Canada to Georgia, and from the Atlantic coast to the regions beyond the Mississippi. While its stem is proof against the cold of our sub-arctic winters, its foliage is proof against the heat of our sub-tropic mid-summer sun.

Much as we may admire this plant as we see it growing wild, we do not realize its full beauty until we see it properly

trained, and allowed to spread over a trellis twelve or fifteen feet high, and six or eight wide. In such a situation when in bloom it is singularly effective, and if *C. Jackmanni* stands beside it the combination or contrast is perfect.

An added beauty of this Virgin's Bower is that of the feathery appendages to the seeds which appear after the flowers have fallen, and remain on until late in the fall; these plumules are so abundant that collectively they form the prominent feature of the plant, so striking as to attract the notice and admiration of the most casual observer. The hardiness and the great seed-bearing capacity of the vine are the qualities which have so firmly established it over its wide geographical range, and these are qualities, also, which make it one of the most valuable decorative climbers.

ROSA RUGOSA.

Our readers have been fully informed of the character and merits of *Rosa rugosa*, or the Ramanas Rose, and now we present a colored plate that faithfully represents the typical red, and also the

white variety. This hardy and handsome Rose grows in favor, and will soon become widely known. We think it may yet prove valuable for ornamental hedges.

CORRESPONDENCE.

THE FARMER AND GARDENERS' WORK SHOP.

Every farmer, market gardener and fruit grower whose business requires the keeping of a team, or even one horse, should also have a few carpenters' tools, a bench and a vise. It would be more convenient to have a suitable room specially for a work shop; but if that is impossible, then a corner of the main floor of the barn will do.

If provided with a few suitable tools, any man of ingenuity can do many a job of repairing for himself, which would otherwise cost him considerable money, and often great loss of time besides. To illustrate: while plowing Corn, one day, when a boy, the plow point caught on an unseen root, and the sudden jerk broke the beam. My employer who was working with me in the same field, gave me his horse and plow, and then taking mine went to the barn. There he made and put in a new beam, which did not take more than two or three hours. He lived three miles from town, and it would have taken him longer than that to have gone to town and had it mended, so he probably saved time as well as money.

Winter is a season of comparative leisure to most farmers and many gardeners. At that time they would find a work-room and a set of tools very useful. There are many agricultural implements which any man who is handy with tools can easily make for himself, and thus find profitable occupation for many stormy days through the winter and spring, when it would be impossible to work out of doors.

If money is plenty and economy is no object, almost anything needed can be purchased from dealers ready for use, and usually a better tool than can be made at home. But if, as is usually the case, the purse is growing lighter daily, and there is nothing to spare for new tools, very serviceable substitutes may be made at home with very little expense. I made a wooden reel for a garden line a dozen years since, and though it has been used every season, it is still in good con-

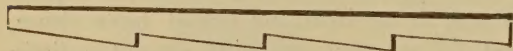
dition. It has answered its purpose quite as well as an iron one could have done, and did not cost anything except a little time which could not have been more profitably employed.

One winter, I bought lumber and made new boxes, with side boards, for two wagons, one a large two-horse wagon, and the other a heavy one-horse wagon. If they were not quite so nicely finished as those made by a more experienced and skillful workman, they did not show it to a casual observer, and they answered their purpose for several years quite as well as if I had paid out several dollars to hire the work done.

A home made planker or clod crusher is a very useful tool, the material for which will not cost more than two or three dollars, and it is worth more in preparing land for small seeds, such as Turnips, Carrots, Parsnips, &c., than any land roller or similar implement that I have ever seen, though most of them cost ten times as much. This tool can be made in various ways, the easiest and simplest way is as follows: Take two pieces of scantling three and one-half feet long, and either two by four or four by four inches square, also ten boards six inches wide and six feet long; lay the scantling on the ground four feet apart, exactly parallel, and the ends just even. Make two blocks, one by two by four inches, hew one side of each down to an edge, and nail one on to the edge of each scantling. Begin nailing on the boards, the blocks will keep one edge of the first board up one inch from the scantling, lap the next board two inches on to this one, and the next the same, and so on, until all are nailed on, lapping each one two inches over the last; when finished it will look very much like the siding or weather boarding of a house. Turn it over and bore a hole in the front of each scantling for a clevis. When you wish to use it, attach a chain to the clevis and hitch on one or two horses, and it is ready for work. This will break up lumps and

smooth off land better than a roller. If it is not heavy enough to do good work, it is easy to step on and ride, and thus add the necessary weight.

A better and more durable clod crusher can be made by using two-inch plank instead of inch boards, and instead of lapping and nailing, notch the scantling thus,



making the back of each notch two inches deep, and then bolt each plank securely to its place, and the implement will last enough longer to make up for extra labor and expense.

It is often a great convenience to be able to mend the harness at home in case of emergency. Those who have never tried will be surprised to find how many breaks can be mended with copper rivets.

A few of these, of different lengths, a punch and some scraps of harness leather should be found in every farmer's barn or work room.

Copper wire is also very useful; a large spool of it carried in the wagon or buggy would often save a great deal of annoyance and delay. A broken single whiffle tree might be wound so as to hold until you could get home. If a trace breaks on the road it could be tied together with copper wire, and a vexatious delay avoided. Cracked handles in pitch forks or other tools may be wound and made to last a long time. In fact, the uses of copper wire are too numerous to mention.

The tools for such a work-room as I have spoken of may be few or many, according to the purse of the owner and his ability to use them. W. C. STEELE.

A ROSE BED.

In making a bed, two years ago, for Ever-blooming Roses, I had it well spaded very deep, and down very deep it was thoroughly enriched with well rotted manure, the surface soil, however, is of a kind that will not allow the hot dry air of our climate in summer to penetrate, a rather heavy soil, perhaps you might call it. After getting good, healthy, well-rooted Roses from a reliable firm, I planted them deep down, and when the hot August sun beat down upon us all, with a strong threat of laying us on the shelf, we had that Rose bed well mulched with rotten manure from the cow yard, and the whole thoroughly watered every alternate evening, and was I not amply repaid? Yes, a thousand times yes; the multitude of beautiful buds, and fragrant, full blown Roses were a delight, an unspeakable joy all the livelong summer, and when I removed them, late in November, to their winter quarters, the cellar, they were still covered with buds and blossoms.

Last spring, after again enriching the bed as soon as the ground could be worked, I planted as early as possible; they started into immediate growth after having been severely pruned back, and scarcely knew they had been lifted, buds soon came and a second season of glory in the garden ensued, far ahead of the preceding year, for to my

former list I added thirty new ones, and the old ones were so large, so many branches that it would have surprised me had they not tried to surpass the new comers. They were treated during August in much the same manner as before, mulching and watering being one of my hobbies, I also use the same effectively on Gladiolus, and with the same grand results; hundreds of Roses were cut, and on one Polyantha Rose, Mignonne, I counted at one time eighty-three buds and blossoms.

To enumerate or give a list of what Roses I have would occupy too much valuable space, but I have often felt that I would rather purchase a Rose if I knew some amateur had handled it and been successful with it, so I write out a few that are really good and to be had from any first-class florist who has them in stock. But don't believe, even if some tell you, that you will get one of the first-class novelties for a dime, for you won't. You will know why, dear beginner, when you try to propagate them. I found Etoile de Lyon all "my fancy painted it," it is beautiful, beautiful, such a thrifty grower. Among the dark velvety red varieties is Queen of Bedders, a free bloomer, and just what you want. Is there anything to beat the old reliable Hermosa, a rose-pink beauty! Sunset did not do well this year, but as it is the first perhaps it will do better

next year; but it gave me one glorious flower, and that was bliss enough. If it had died then I could even have forgiven it, but it lived and grew well. I must mention *Niphetos*, a lovely, pure white, its buds are such a beautiful shape, all one needs in bouquets. I could mention many more full as good, but must hurry along. The new *Polyantha*, *Perle d'Or*, is very pretty, "coppery gold, changing

to fawn and salmon." It bloomed very well although only a tiny plant when received, first of May.

To sum up, there is no bed of plants for so small an outlay of money which will give a person so rich a reward, or so much solid interest on the money invested, in the way of pleasures and home-like joys, as a well-cared-for Rose bed.

M. R. W.

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GROUNDS OF W. F. COCHRAN.

There are a number of much larger gardens at Yonkers than Mr. COCHRAN's, but none have received such universal commendation from gardeners during the past summer as his. He has been fortunate in securing a Scotch gardener in Mr. MACDONALD, who has had practice in some of the good gardens in England and Scotland, and has the ambition to excel in all he undertakes, and it is not too much to say that every department in his charge is as near perfection as can be seen. The cultivation of common plants is much above the average, and the keeping is simply perfection.

The situation and the profile of the ground is such as to show that keeping to the best advantage, and although the property is the next one to "Greystone," it is "Greystone" that suffered by comparison.

Mr. COCHRAN has a frontage on Broadway, Yonkers, of three hundred feet, and a depth from the street to the Croton Aqueduct of eleven hundred feet, with an increased width of seven hundred feet at the lower or Hudson River end of the property. The kitchen garden is situated at this wide part. It is in wide terraces with a walk down the center, with steps at the terraces, and it has been kept practically without a weed. It is said, if you would know a gardener, go first to his stoke-holes, but the kitchen garden is a good enough beginning for me. When it is found in perfect cropping and keeping, the dressed grounds are pretty sure to be worth inspection.

The accompanying sketch will give a rough idea of the character of the lawn in front of the house. It may be called gardenesque, if the style must be described, but a purist might object to call it so; and I will simply say that the ground seems to have been laid out in a

manner securing at once utility, beauty, simplicity and comfort.

A stretch of nearly level open lawn between the house and the public road, above which it is raised about two feet, or rather, perhaps, the road has been lowered, a carriage road on one side, a path on the other, some trees, and flower beds, this is all the idea a planting and profile plan could convey. But a gardener takes it in hand, plants the beds tastily, keeps the grass perfectly, edges the roads evenly, keeps them thoroughly, does everything in season, gives all his subjects thorough cultivation, and the result is that every gardener who passes, and, I presume, all others with taste, desires to know, as I did, who that exquisitely kept place belongs to, next to ex-Governor TILDEN's.

I will give a few examples of the bedding, and it will be seen that color was not wanting; every bed seems to have been carefully studied out, and there were no crude mistakes, such as planting Golden Feather *Pyrethrum* and Golden Bedder *Coleus* in juxtaposition, as might have been seen in a terrace garden on the Hudson, this summer.

Bed No. 1, contained, 1, Summit of Perfection *Geranium*; 2, *Verschaffeltii* Improved *Coleus*; 3, *Centaurea candidissima*.

No. 2, 1, A star of *Verschaffeltii* *Coleus*, with, 2, Filling of Golden Bedder *Coleus*; 3, Band of *Alternanthera versicolor*; 4, edge of *Sedum variegatum*.

No. 3, 1, *Vinca rosea*; 2, *Verschaffeltii* Improved *Coleus*; 3, *Centaurea gymnocarpa*; 4, Blue *Lobelia*.

No. 4, Golden Bedder and *Verschaffeltii* *Coleus*.

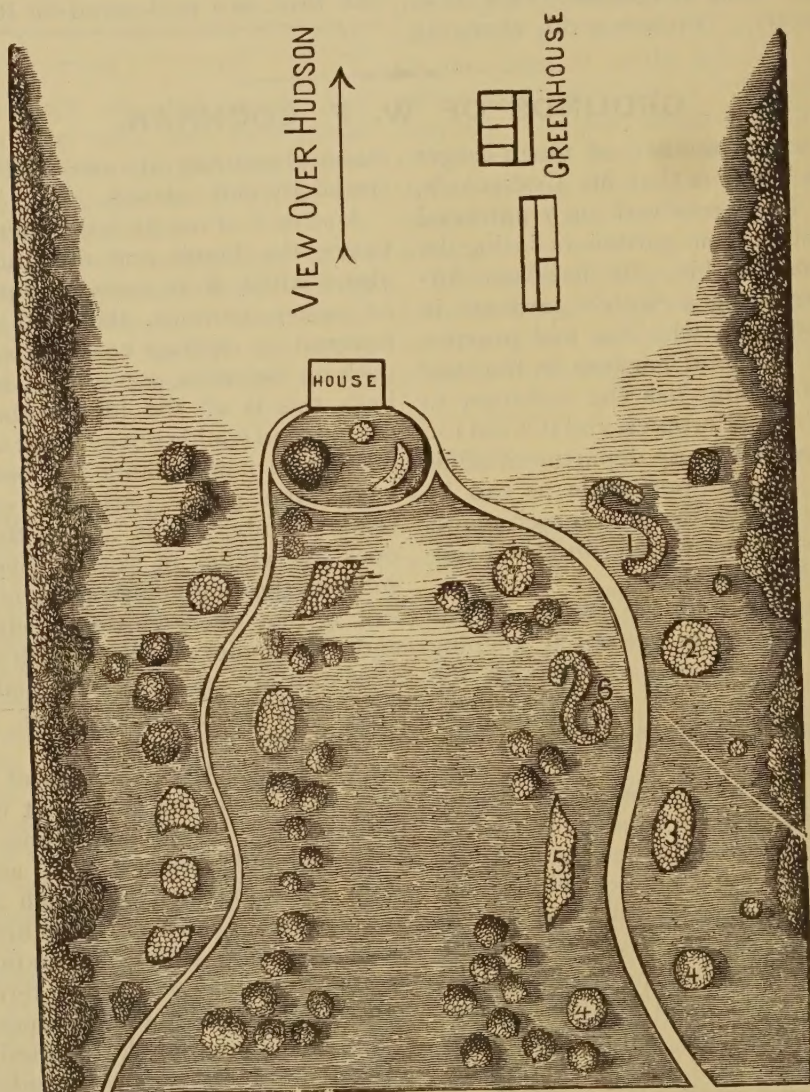
No. 5, Carpet Bed, edged with *Echeveria secunda*. The pattern a five-rayed star and two crescents traced in *Eche-*

veria secunda and *Pilea microphylla*. The star planted solid with *Alternanthera aurea nana*, and the crescents with *A. parynichoides*, and the ground work with *A. parynichoides major* or *magnifica*.

I have seen a great many beds in various places this summer, but none in which

Will not somebody hunt through the *Flora Capensis* or the *Flora Australiensis* and see if they can't find a good perpetual flowering dwarf blue bedder, or two? Some *Compositæ* or other surely exists which will flower during the heat of summer. Neither the *Ageratum* nor the *Lo-*

KITCHEN GARDEN.



PLAN OF GROUNDS OF W. F. COCHRAN, ESQ., YONKERS. N. Y.

the coloring was so well defined as in this simple design. The small-leaved *Pilea* is simply admirable when judiciously laid in in a deep magenta red, as was done here.

No. 6, 1, Madame Ruddensdolph Geranium; 2, Mountain of Snow; 3, Iresine.

No. 7, 1, Cannas; 2, Salvias; 3, Globe Amaranth; 4, Centaureas.

Dahlias have been good this season, and the little Madame Salleri Geranium has proved a gem in its way.

belia will do, they both require greater coolness and more moisture than can be had around New York during June and July.

I have seen Mr. COCHRAN'S place since the 20th of October, and his operations under glass are fully as good as his out-door gardening; beautiful examples of standard Japanese Chrysanthemums of choice recently imported kinds; well grown Roses of the best sorts, a house of winter Cucumbers, and a stock of Carna-

tions in pots which are hard to beat for superb health and condition. These, together with a well selected stock of the most useful winter flowering plants, promise to afford Mr. COCHRANE and his family a rich fund of enjoyment during the winter now close upon us.

Mr. MACDONALD strikes very many of his bedding plants requiring great heat,

such as some *Alternantheras*, *Iresine*, &c., during August, and in this way, of course, secures plants which afford immediate effect.

Altogether, Mr. COCHRANE is a very fortunate man, and he need not envy any of his gardening neighbors. The boot is on the other leg.

JAMES MACPHERSON.

TREES ABOUT FARM HOUSES.

Trees are the conspicuous features in the ornamentation of a country residence. Their attitudes and their shades of color, with the buildings nestling among them, make up a tableau as effective and distinguished in its kind, and far grander, than one sees in the poses of the stages or the groups of the drawing-room. It is not till we enter the inviting place and tread the shady walks that we begin to see new, though minor, beauties in the arranged shrubbery and flower beds, details of ornamentation that compare with the items of dress, jewelry and furnishings which appear when we come near to a well-dressed human group.

But the farmer residents of country places want all their ground for salable crops, and are apt to be reluctant to set out trees for mere adornment, or even for the shelter that often would add one-fourth, if not more, to the value of their land, and to the warmth and comfort of their buildings and approaches. Now that everybody burns coal, and fences are made with wire, trees are little wanted, unless for fruit and to supply some posts. There are some fruit trees, however, that can be used for distinct embellishment, although all the trees grouped in a thrifty orchard look well. I will only mention one sort here—the Winter Sweet Paradise Apple, distinguished for its remarkably neat, erect growth, its vigor and the stateliness of its head, which, although the tree is an abundant and regular bearer, never gets out of shape, because the load of fruit is carried on stiff spurs that issue from the interior and firm branches. The young growth has nothing to carry but the leaves. The tree needs very little pruning. It is hardy and not pinched in and disfigured by the parching effect of severe winter weather, as many fruit trees are; hence, it is enduring and long lived. Being a

winter Apple and a very good keeper, quite a number of the trees can be planted without excess of supply, and this helps to make it a peculiarly eligible tree to line an avenue or lane or roadside upon a farm. The Apples are dull in color, not attractive to marauders when green; they gain a peculiar purplish blush in full sunshine, they cook well, and are delicious fare baked and eaten with milk. If they become over abundant all the tenants of the styes and stables will gladly do their share in the consumption, and convert all that is spare into fat, milk and muscle, the rich sweet of the fruit rendering it very nutritious.

When there is at once desired a tree that shall be ornamental by its native neatness of figure, and by regular cropping with fruit of exceeding beauty, and withal of moderate growth, not requiring over much room, the Marston—Marston's Red Winter, of DOWNING's large edition—is especially commendable. It is rare in nurseries, because its early growth is very slow, it is a natural dwarf. Yet it grows in good shape, and its hardiness enables it to make a good appearance, and to produce its large, well formed, deep red fruit, rich as a Rose in color, in annual abundance if the roots are properly fed and the stem kept sound. Its beauty and juicy tenderness of flesh do not appear in full perfection till about Christmas, but it is showily handsome on the tree. Mr. DOWNING calls it good to very good, and says it keeps as well as the Baldwin, which is all true. To secure its very goodness it should be stored in a close and not too dry a cellar, as it is one of many sorts with thin, fine skin, which shrivel easily; it will then come out as splendid in appearance as excellent in quality.

W., Tyrone, Pa.

XANTHOSOMA SAGITTIFOLIA.

This beautiful aquatic, better known under the names of Spoon Flower and Wilmington Lily, belongs to the Arum family, and seems to be peculiar to certain boggy localities in the neighborhood of Wilmington, North Carolina. The *Xanthosoma*, or Spoon Flower, grows only in the shallow ponds, or stagnant ditches, having a bottom of soft peat mud.

It thrives best in the deepest shade, usually growing in the shadow of the Bald Cypress and the Cane Brake. The general habit of the plant is very much like that of the common Arrowhead, *Sagittaria*, only the leaves are more glossy, smooth and very dark green. In the most favorable situations the plant attains a height of two to three feet. The flowers open about the first of June, and from that date till the fifteenth of July. The plant with its handsome foliage and pure white, spoon-shaped spathe, the part commonly mistaken for the flower, is one of the most elegant sights imaginable.

The *Xanthosoma* has a very long and slender tap-root, which is covered with

warty excrescences and long, string-like filaments. These filaments take such a firm hold upon the rootlets of the trees among which it grows and upon the peat mud that it is found to be nearly impossible to dig or pull up an entire root.

Xanthosoma bears an abundance of large, coral-red seeds, which are ripe about the first of September. When the seeds are fully ripe the pod bursts, permitting them to fall out and sink to the bottom of the pond or ditch, where they seem to lie dormant until spring.

The mean annual temperature of Wilmington, N. C., is 64° Fahrenheit. The usual summer temperature being from 75° to 90° Fahrenheit. The winter temperature varies from 32° to 50°; the average being about 44° Fahrenheit.

In attempting to domesticate this swamp beauty the roots should be given plenty of room to extend themselves downwards. The soil should be moss or peat with decayed wood and a little sand. The plant cannot get too much shade or water. As is usual with bog plants, the flowers of *Xanthosoma* are not odorous.

GERALD MCCARTHY.

ACALYPHA TRICOLOR.

The three-colored *Acalypha*, *Acalypha tricolor*, is a very handsome stove or warm greenhouse plant, belonging to the natural order Euphorbiaceæ. It is a native of the New Hebrides Islands, whence it was introduced in 1866. It is a plant that is grown only for its very handsome ornamental foliage, and when well grown it is a decided acquisition to any collection for decorative as well as for exhibition purposes, for but few plants excel it in beauty all the year through. Cuttings struck early in the season and properly cared for will form fine specimens for planting out in the mixed flower border, or as single specimens for vases, etc.

It is a plant of free growth, attaining a height of from two to four feet, having large, variegated foliage, irregularly mottled and blotched with green, copper and red; the flowers are small and comparatively insignificant.

This *Acalypha* is a plant easily cultivated. It prefers a light rich soil, or one composed of two parts well decayed sods,

one part old manure with the addition of a little sand; drain the pots well and use the compost rough. Do not permit the plants to become pot-bound, and repot as often as necessary until they have attained the desired size. If at all possible, give them a light, sunny situation, and a winter temperature of from 55° to 60°. In the winter the plants should be carefully watered, as drought is quite injurious, and, on the other hand, excessive moisture is equally injurious and must be well guarded against.

When grown as single specimens for the mixed border, or for any out-of-door use, plants should be obtained early in the season, and every available means employed to have them a good size before they are planted in the open air, and as the plant is rather tender this should not be done until after the middle of May. When planting out give them a well enriched deep soil, and also supply copious waterings during seasons of drought. If it is desired to preserve the plants for

another season, they should be taken up early in September and potted in small sized pots, and kept dormant, or nearly so, until the first of April, when they should be started into vigorous growth. A writer in one of our horticultural publications, in speaking of this *Acalypha*, says: "Few plants excel this for stove or warm greenhouse decorative purposes at all seasons of the year." Yet it is seldom that one meets with a fine specimen.

Cuttings should be rooted early in March, potted off as soon as rooted, shifted as often as necessary and pinched back freely, in order to obtain fine specimens, and this treatment continued until they reach the desired size, when all repotting should be discontinued and

due measures taken to preserve the plant in a healthy condition by copious but judicious applications of liquid manure water and by repotting it every spring. When grown under glass this plant is somewhat subject to the attacks of the red spider, and on this account should be freely and frequently syringed.

Propagation is easily effected by cuttings of the half-ripened wood placed in sand in gentle bottom heat, and if the young plants are liberally cared for, nice specimens will soon be obtained.

The generic name is derived from *aklos*, unpleasant, and *aphe*, to touch, and the specific in allusion to the many colors which are to be found in the leaves.

CHAS. E. PARNELL.

WINTER WEEDS.

There is a class of weeds, biennials and perennials, that the autumn frosts do not kill, and if we examine our gardens late in the fall, or in the winter, we will find tufts of leaves in considerable variety that have appeared since our last summer hoeing, when every weed was

winter leaves and stems often disappear almost entirely when the summer flower stem is thrown up.

Many of our weeds which in botanical works are called annuals are also biennials, the character depending on the time in the season when the seeds are perfected, for, some plants will have two or more generations of perfect plants in a season, and the seedlings starting from the ground late in the fall will survive the winter, and are ready to start into growth immediately on the incoming of spring. This plant, you would say, is a biennial, and so it is; but most biennials require nearly all the season for their seeds to perfect and form a new plant for the coming season. But this is not the case with the plants we have to deal with, they spring into growth early in the season, and the older plants perfect seeds within a very few weeks, and these seeds, with those that did not start in the fall, immediately spring into growth, and before the season is over these plants have perfected seeds. Such plants, you say, are annuals, and so they are, and you can see how a plant can be both biennial and annual.

And in this fact is the explanation of the question, why some plants are weeds, while other equally as hardy and adapting themselves to all soils equally as well, are not. It is simply because they have so short a season between the time the seed starts and the time the plant perfects new seeds, that they are



CAPSELLA BURSA-PASTORIS, OR SHEPHERD'S PURSE—
YOUNG PLANT.

hoed up and raked out, and, unless a person is a close observer or the plant is very familiar, he will not recognize to what weeds they belong, for the forms of the leaves on the winter tufts are generally very different from those on the summer flowering stem. On the one they may be oval and toothed, while on the others they are linear and entire, the leaves on the one may have stems, while the others are stemless. And, again, the

adapted to any season, however short. slightly notched, and are covered with To this class belongs the Shepherd's short hairs. It is these plants that we Purse, *Capsella Bursa-pastoris*, one of will see late in the fall after our hoeing is



VARIOUSLY FORMED LEAVES OF MATURE PLANT OF *CAPELLA BURSA-PASTORIS*, OR SHEPHERD'S PURSE.

our most common weeds, and one that has kept pace with civilization in its onward march throughout the temperate zone; it is, like most of our weeds, a native of Europe, and was brought here by the earliest settlers. The plant in flower and seed is familiar to all, but in its younger stage would not be recognized by many. The root leaves vary greatly in half-grown and older plants, and the three forms represented here are frequently met with, and also every variation between them, but this variation only begins when the plant has got beyond the seedling stage, the very young plants vary but little, and are quite distinct from those of an older growth. The leaves of the young plants are only

finished, and that spring into flower and seed early in the season, thus perpetuating a troublesome weed that really is not hard to exterminate.

The Neck Weed, or Purslane Speedwell, *Veronica peregrina*, is another weed that is an annual or biennial; the winter form is here illustrated. The weed is a common one, and a single plant is quite insignificant, but when it becomes so numerous as to cover the ground, as it often does, it then demands attention; it is one of our earliest weeds, and by July is gone. This little plant throws up several stems about three inches high, with narrow, smooth-edged leaves in the axils of which are formed the small whitish flowers and triangular notched seed vessels.

The native Wild Toad Flax, *Linaria Canadensis*, is another very common weed, an annual or biennial, and the winter form illustrated here would not be connected with the plant in flower and seed by a casual observer. The plant in flower is about a foot high,

with one or many slender, upright branches; the stem leaves are long and narrow, the flowers are numer-



LINARIA CANADENSIS, OR WILD TOAD FLAX—WINTER FORM.

ous and blue, with a little thread-like spur.

The Indian Tobacco, *Lobelia inflata*, is sometimes troublesome as a weed, and is called an annual, but it is also a biennial. It is a native plant, and has been

used as a medicine. The juice is very acrid, and in large doses poisonous. The winter form, here illustrated, would not be connected with its proper plant from appearance; it was one that puzzled the writer for some years. The leaves are very dark purplish-green in winter, blunt, minutely toothed, somewhat hairy; the roots are long, white, thread-like, unbranched. The summer form is about a foot high, with many branches, light green, pointed and toothed leaves, light blue flowers and inflated seed pods, and



LOBELIA INFLATA, OR INDIAN TOBACCO—WINTER FORM.

would be immediately recognized by the smarting left in the mouth after testing the plant.

We have also the two Chickweeds, both introduced from Europe, that are classed as annuals, but the plants live through the winter and are ready to blossom at any time when there is a mild term of weather, and will begin growing immediately on the opening of spring. Neither of these plants change the character of their foliage in the winter, one is light green with smooth leaves, the other is dark green with hairy leaves.

A common weed in wet ground is a small St. John's Wort, *Hypericum mutilum*, that is called an annual, but the young plants often survive the winter. This, as well as its troublesome perennial brother, the common St. John's Wort, *Hypericum perforatum*, another weed introduced by early colonists, need not be

very troublesome in well hoed grounds, for the plants are usually destroyed before the seeds are perfected, as it flowers quite late. These two plants have very



LOBELIA INFLATA, OR INDIAN TOBACCO—FULL GROWN PLANT, REDUCED.

nearly the same winter form, with the exception that the common St. John's Wort is larger and stronger, and is usually found in dry ground. The leaves on the winter stems are oval, light green and closely arranged.

A Sand Spurry, *Spergularia rubra*, variety *Compositæ*, has much the character of an annual, but is really a perennial,



VERONICA PEREGRINA, OR NECK WEED—WINTER FORM.

lasting, as it often does, if not disturbed, several years. It is quite a common weed, especially in gravelly or light soil, and has the same winter and summer form. It has very numerous grayish-green, fleshy, needle-like leaves on stems

running for a short ways from a central, spindle-shaped root. The flowers are pinkish-red, and open only on sunny mornings. The plant comes into flower early in the spring and perfects its seeds very early.

The common Mallow, *Malva rotundifolia*, is a troublesome weed in gardens where it once gets established, it is a biennial with a very tough deep-growing root, and is difficult to cut or pull from the ground. The stems lie flat on the ground, the leaves are round and long-stemmed, the flowers are whitish and the seeds are closely packed in a single row about the center, and children call them "cheeses," and often eat them when green, as they have a pleasant mucilaginous taste. The plant is another of those early introduced into the colonies from Europe.

I have called attention to certain weeds, more or less of them represented in every garden, and a class that is quite well defined by their forming plants late in the season, that are ready to spring into flower and perfect seed very early in the following spring.

The best way to destroy these weeds is plainly to be seen; give your garden a good hoeing the last thing before winter, even in the winter if the ground is at any time open enough, and if not then the first thing in the spring. You will not only destroy these winter weeds, but also many perennial weeds that have started from seed late in the season and formed small plants ready to grow and increase the coming season.

WARREN H. MANNING.

THE WANDERING JEW.

One of the most admired, and so one of the commonest plants is the *Saxifraga sarmentosa*, often called the Wandering Jew, easily recognizable by its thick, round, white-veined leaves, green above and red below, and bristling on both sides with conspicuous erect, white hairs. It sends out long, thready runners, at the ends of which young plantlets form, as on Strawberry runners. M. ROMANET DU CAILLAND, a French savant, says that the juice of this plant is considered in its native country, China, a specific for deafness. Some fresh leaves and stems are bruised in a mortar, and some of the sap

that exudes is dropped into the ear, where it dissolves the cerumen, or ear-wax, the hardening of which often obstructs the passage. An infusion of the dried leaves is said to fail of effect. The fresh juice is actively mordant, according to M. DU CAILLAND, and it is safest to use at first but a single drop. A physician should supervise, for the ear is a most delicate organ. The plant is half-hardy, and grows best in half-shaded places and in good, retentive, loamy soil, which is best if free from lime. It flowers on tall stems, in June and July, or earlier if forced. W.



FOREIGN NOTES.

RAT'S TAIL CACTUS.

A writer in *Gardening Illustrated* says that *Cereus flagelliformis*, the plant commonly known as the Rat's Tail Cactus, "is worthy of more care than is generally bestowed upon it. Well grown, it is one of the most attractive and distinct plants in cultivation. We have a specimen of it upwards of ten years old, which every spring is a perfect picture, bearing upwards of a hundred of its extremely graceful, bright rose-colored blooms. This plant has been seven years or more in the same pot, and grows as finely now as at any period of its existence. It gets no water in the winter, but has a little liquid manure in summer. Comparing this treatment with that required for so many flowering plants, one wonders that a plant having so much to recommend it as this Cactus has should be so neglected. It is more beautiful than many Orchids, but it belongs, unfortunately, to a race of plants which are unpopular, and which, consequently, receive but little attention. Even when out of bloom this *Cereus* is ornamental, forming quite a dense curtain of slender growths clothed with thickly set, glittering spines; it is one of the best of plants for a hanging basket in a cool room or window. All that it demands in summer is plenty of sun and air; then it makes strong growths and blooms freely. A good-sized plant of it lasts a considerable time in flower, while the first blooms are expanding the last ones are only just making their appearance."

DAHLIAS AS POT-PLANTS.

Dahlias as pot-plants are most effective for autumn blooming. Having a good lot of young, spring-struck plants, we grew them on out of doors, shifting them into larger pots as they required it, until by the end of August they were very fine bushes in ten-inch pots, and covered with flower-buds. They were then transferred to a cool-house, that is kept open day and night, the glass roof, keeping off heavy rains, being all that is desired at present. They are opening the most

lovely flowers, the majority of which are pure white, of the miniature or pom-pone class, and the Scarlet Cactus Dahlia, so effective as cut flowers. I can confidently recommend them to any one wanting a supply of these useful flowers for church decoration, or the making of funeral wreaths or crosses. When one trusts to the out-door supply, the purity of the flowers gets tarnished by heavy rains, and only a few degrees of frost will cut off the whole supply, while a few pots will yield a quantity of bloom until the Chrysanthemums come in. Any one giving them a trial is not likely to discontinue the practice. We have a very effective white called Constance, which is very fine for large blooms, and the smaller but very exquisite blooms of Guiding Star are the perfection of what a neat little white Dahlia should be. The roots of these pot plants are always reliable for stock purposes, as there is no fear of their decaying; for, if dried off after they cease blooming, they may be started again in spring with the certainty of yielding a good supply of shoots for propagating.

J. GROOM, in *Gardening Illustrated*.

VALLOTA PURPUREA.

A correspondent of the *Journal of Horticulture* supplies the following: "As an autumn-flowering plant I think *Vallota purpurea* ranks amongst the best of our greenhouse-flowering plants. Several came into bloom in the middle of September, and have lasted till the present time, (December 10th.) I find them more useful at the time above mentioned than in the beginning of August, and they last twice as long. It is a mistake to over-pot them, and the drying system practiced by some gardeners is wrong. The *Vallota* is an evergreen bulb, and must never be allowed to get dry at the roots. My plan is to pot, in March, three fair sized bulbs into 8-inch pots, the compost to consist of strong loam, a sprinkling of sand, and as a manure, I think, there is nothing to surpass sheep manure with a little soot. I keep the plants in a shady part of the greenhouse after potting

till the end of May, when they may be shifted into a cool frame fully exposed to the sun. They require an occasional watering with liquid manure. I find plants potted in late autumn come in bloom earlier than those potted in spring."

SOME NEW ANNUALS.

The horticultural house of HAAGE & SCHMIDT, of Erfurt, Germany, are sending out, this year, two new annuals that apparently will be of some value. One of these is *Eritrichium barbigerum*, and is described as being pretty and extremely free-flowering, of dwarf, spreading habit, with pure white Forget-me-not-like flowers, and linear-oblong, hirsute leaves. The flowers of this Borage-wort appear in racemes on elongated spikes, like those of the *Phacelia*. The bushy plants keep up a constant succession of bloom throughout the season and present a charming aspect.

The other is *Phacelia Parryi*, and is thus described by the introducers: "A truly magnificent new annual from California, of branching habit, and one foot to one foot and a half in height; leaves ovate, irregularly double-toothed or lacinate, hirsute, bright green; racemes loose, at length elongated; flowers round, three-quarters of an inch in diameter, of a lovely purplish-violet color, with five pure white spots at their base." They also state that it gives an abundance of bloom.

Another new annual of promise supplied by the same house is an annual Hop, *Humulus Japonicus*, which they have proved to be very ornamental and a fast-growing climber. The foliage is very dense, and the leaves resemble those of the common Hop, but having more incisions; the color is a lively green. The peculiar feature of this new climbing plant is that the seed can be sown in the open ground in spring, and

the plants will attain enormous dimensions in a short time. It is said not to suffer from heat nor to be injured by insects, and retains its bright green color until late in autumn.

TUBEROUS BECONIAS.

Amongst the sorts for a bed of one color, says *The Gardeners' Chronicle*, are:

Alba floribunda—The best white, very free, and a compact grower, doing well in the open air.

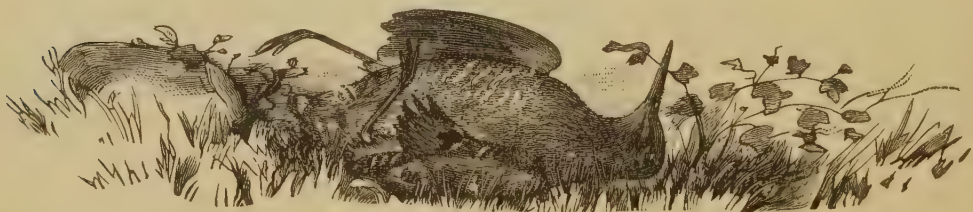
Worthiana—Pale red, a dwarf compact grower, that flowers profusely from the beginning to the end of the season.

Louis Bouchet—A small flowered, double red variety, about ten inches high. A bed of this sort, from cuttings struck last year, was a complete mass of bloom.

Yellow Bedder—A pure yellow, with a profuse flowering disposition. This plant has the peculiar habit of keeping or throwing up blooming growth from the bottom to an extent that all but covers the leaves with flowers.

WEeping PURPLE FRINGE.

A new form of Purple Fringe, or Smoke Tree, with drooping branches is described in a Belgian horticultural journal, under the name of *Rhus Cotinus pendula*. This variety sends up an upright stem, from which are produced lateral branches that fall downwards to the ground, and then curve outwards their extremities. The extremities bear great masses of pedicels of abortive flowers, similar to those of the common Smoke Tree, which make it so ornamental. The general form of the plant is pyramidal, and the *Revue Horticole* remarks in regard to it that it will form a very useful shrub to plant either singly or to group on the lawn in the immediate neighborhood of somewhat compact masses.



PLEASANT GOSSIP.

MY SECRET.

There is a secret of my heart
I am longing to impart
To a sympathizing ear,
That will dearly love to hear.
Up and down each garden border,
I survey them all in order,
In an eagerness to find
A fair listener to my mind,
Who will guard my secret well
In the bosom of her bell.

I'll not tell it to the Pea,
She would blab it to the bee ;
I'll not tell it to the vine,
Though she be a friend of mine,
She would whisper every word
To the wanton humming-bird.
And the Lily is too saintly,
She would listen, nodding faintly,
Seeing all the time a vision
Of a fairer realm Elysian.
Much I fear the Hollyhock
Would be rude enough to mock,
And the Sunflowers, every one,
Would disclose it to the sun ;
By the Tulip, ever bold,
All my tidings would be told,
And the giddy Fuchsia bell
Would be almost sure to tell.

Here's a Rose-heart, lying bare,
I will hide my secret there ;
'Tis the merit of the Rose
Nothing hidden to disclose,
And the beauty of her breast
Will become my treasure best.
Yes, sweet Rose-bloom, warm and true,
I will tell it all to you.

MRS. DANSKE DANDRIDGE.

AN INFESTED PINE TREE.

We have a fine Norway Pine in our front yard which seems sadly diseased. About two years ago we noticed a sort of white powdery or fine feathery substance on the trunk. As this extended to the lower limbs the needles turned black, as if covered with smut. I tried washing with soap-suds to no purpose. Will you kindly reply if there is any cure, or if the axe is the only remedy? The black spines I find clear up the tree, black and apparently dead.

H. S., *Stoughton, Wis.*

The specimen received with the above inquiry was sent to ROBERT DOUGLAS, the celebrated grower of evergreens, of Waukegan, Illinois, with a request for his opinion regarding it. Mr. D. kindly sent us the following reply :

Yours with diseased specimen received. Mrs. SEWELL is entirely mistaken in supposing this to be a Norway Pine, *Pinus resinosa*, which has only two

leaves in a sheath, while the specimen is a five-leaved Pine, our common White Pine, *Pinus strobus*.

The white, wooly aphid will sometimes attack a diseased specimen of the White Pine, but in nearly every instance that I can call to mind the tree stood on cold, swampy ground, and was probably diseased before it was attacked. Now, this White Pine, standing in the "door yard," may have been over dosed with manure, or the roots may have come in contact with sink water to produce the disease. This might be accounted for in many ways ; but how are we to account for the white aphid turning black? It surely could not have been the soap suds or other wash he says he applied, but, in all probability, another species of insect. I would advise you to send the specimen returned to C. V. RILEY, U. S. Entomologist, at Washington, and get his opinion, and I would advise the owner of the tree to cut it down and burn it.

In accordance with the advice in Mr. DOUGLAS' letter, the specimen was forwarded to Prof. RILEY, and from him we received the following reply :

Yours of the 10th inst., enclosing one from ROBERT DOUGLAS and one from Mrs. H. SEWELL, together with specimens from the latter, has come duly to hand. The insect doing the damage is the common White Pine Louse, *Chermes pinicorticis*. The reason of the black color is that the sweet excretion of the louse has proven an attractive nidus for a fungus or "smut" of the genus *Fumago*, which has spread and enveloped the lice themselves. The lice can be readily killed on an isolated ornamental tree, like this one, by spraying it with a dilute kerosene emulsion.

The course now to pursue depends upon the damage that the tree has already sustained. The insect can be destroyed in the manner indicated by Prof. RILEY, and the only question to be decided is whether the tree is worth saving.

PELARGONIUMS.

May I ask, through the MAGAZINE, something about Pelargoniums. Must they be renewed every two years? I notice little spots on the leaves of one of mine. I see no insects, yet the leaf takes a yellowish tinge.

We enjoy the MAGAZINE more and more.

MRS. H. SEWELL.

The annual blooming Pelargoniums are usually carried along a number of years, becoming stocky old plants with numerous branches. By the latter part of this month, or, since you live in a high latitude, it may be delayed a little later, the plant should be repotted into a pot a size larger. In doing this, reduce the ball of soil, without, however, removing

so much of it as greatly to disturb the roots, and replace with soil composed of fresh loam about three parts, leaf-mold one part, sand one part, cow manure, old is best, one part, or a little more, mix well together; water well, and afterwards sparingly until growth becomes active. Pinch in the ends of all the branches, thus inducing numerous shoots to break.

GRAPE VINE—LILY—ROSE.

We have a fine Grape vine standing in a warm situation with the richest of earth, which blooms yearly, the blossoms being entirely staminate. Never a Grape has set on the vine, and we want either to root it up or make it bear. Can anything be done for it?

How would the Auratum Lily do cultivated in tubs or pots? I have read large stories of the success they have in England, and it has occurred to me that in the struggle to winter the bulbs decrease in size, and thus send out the scores of little ones which have so pestered me. Last year, I had but two or three blooms, and those of inferior quality.

There used to be a large white Rose in the gardens of our grandmothers, which was tall and as thorny as the Sweet Briar, and which seemed perfectly hardy. Can any one give the name, and where they can be procured?

C. A. P., *Gouverneur, N. Y.*

The only way the vine can be brought into a bearing state is to graft at the crown, or a little below the surface of the ground.

Very fair results can be obtained by raising Lilies in pots. The pots should be large, the soil rich. Potting should be done the last of summer or early in autumn, if possible, and the pots kept in a cool place through the fall, and in winter occupy the coolest part of the greenhouse or conservatory. Give water very sparingly until growth commences, and be careful afterwards not to over water.

Perhaps Madame Hardy or Madame Plantier are the white Roses referred to. The former dates from 1832, and the latter from 1835. Both have been very generally cultivated, and both are hardy and excellent varieties.

MILDEW ON CHRYSANTHEMUMS.

I would like to ask, through the MAGAZINE, the cause of mildew on Chrysanthemums, and the remedy.

S. M. D.

Mildew on Chrysanthemums occurs in connection with considerable humidity of both soil and atmosphere, and frequent changing from high to low temperature, and especially draughts of cold air. A sure remedy for the mildew, or an agent

that will destroy it, is the sulphide of potash; this is applied in solution, with a syringe. A quarter of an ounce of sulphide of potash is to be dissolved in a gallon of water, and then applied to the plants as stated.

DEFORMED VIOLET LEAVES.

Will you tell me, through the medium of your MAGAZINE, whether the enclosed Violet leaves are defective through disease? The bed they were dug up from, for wintering under glass in the house, had been much trodden on while repairs to my greenhouse were being carried on, and I thought it might be owing to that. Both leaves and blossoms, what few have as yet appeared, come deformed in the same way as fast as I pluck them off.

I would also say that I find "Electric Soap" the best for syringing and washing plants affected by insects. It seems much more efficacious than ordinary soap.

C. M. B. S., *Woodham, Ont.*

The leaves received with the above letter were of small size, and to some extent one-sided or imperfectly developed, and the petioles were enlarged or swollen and wrinkled. A cross-section of the swollen portion of the leaf-stem under a magnifying lense showed the interior as if packed with blackish matter, and under a microscope of high power this proved to be a mass of spores of some fungus. These spores, with a good light, appeared to be a darkish-brown, and were enclosed in a transparent sack, each sack containing two, four or eight of the brown spores. Evidently the plants are suffering from the effects of this parasite, which has made its home in the substance of the leaf-stems. The intruder thrives at the expense of the health and life of its host. What this particular fungus is, or what is its full history, we do not know, but it is certain that the sure method of destroying it, and possibly preventing its continuance in the future, will be to destroy the whole stock of infested plants; this can be best done by pulling them up and burning them. It will be a wise precaution, also, to avoid that part of the garden which the plants now occupy when raising a new stock of Violets.

CELERY NOT KEEPING.

I have just received the FLORAL GUIDE for 1886, which is very pretty and very good; but one thing in it will not do for this part of the country—your recommendation for preserving Celery. Our winters, in Central Indiana, are very damp. I can raise finer Celery than I have ever seen from any place, but how to keep it all winter is the question with me. I have tried it out in trenches, as you recom-

mend, and in the cellar stood in boxes. I have it in the cellar this winter, and at the center, where the choicest stems are, it commences to rot, while that shipped here from Kalamazoo, Mich., at this time presents a healthy appearance and condition. If you can suggest a remedy for this trouble, I am sure you would do a favor to your customers in this section of the country, as my complaint seems to be a general one.

W. P. B., *Brazil, Ind.*

Our columns are open for our readers to supply, next month, a remedy for the evil here complained of. We should think that during mild weather good ventilation of the cellar or root-house, where the Celery is kept, would prevent the trouble.

SPOTTED RICHARDIA.

Please inform me, through the *MAGAZINE*, how to treat the spotted Calla Lily to make it bloom. I have had one over two years, and it never blooms. In the fall I take it out of the ground and put it in a pot of dirt, and place it in a warm place, up stairs, and do not water it during the winter. Is it because I do not keep it in sand through the winter that it does not bloom? What time in the spring should I begin to water it?

MRS. K. R., *Otterbein, Ind.*

The winter care of the plant appears to be right. In March it can be potted in rich soil and started in growth. Give plenty of water when the leaves are out. Perhaps the tuber has not yet been of sufficient size and strength to bloom.

IXIAS.

I would like to ask a question, through your *MAGAZINE*, with regard to the treatment of Ixia bulbs. I have planted them for two seasons, but have never had one flower. Last autumn, thinking I might have been too late in planting them before, I put them down in good soil in October; they came up and grew finely, but never gave me one bud. Can any one tell me what the trouble is?

MARY TAYLOR.

Will not our inquirer be more explicit, and state in what manner the Ixia bulbs were planted? This point is not understood by the term "put down," that is used, as above. A full account of the manner of planting and the result, will probably enable some one to reply intelligently and satisfactorily.

HELIOTROPES NOT BLOOMING.

Will you please tell me why my Heliotrope does not bloom? I have three elegant, thrifty plants, two of them raised from the parent stock. I have treated them with plenty of water and sunshine; they grow finely, but will not bloom.

B. T. E., *Arkansas.*

These plants are receiving good treatment, and will bloom after a while, when the growth is somewhat checked.

FRUIT-GROWERS' COMBINATION.

The Fruit-growers of California have recently organized a joint stock company known as the "California Fruit Union," for the purpose of regulating the shipment of their fruits to the east. The company has its headquarters at San Francisco, and receives from the growers in the different parts of the State all the fruit sent to market, and ships it under its special care, directing its destination. It is believed that by the attentions of this organization much lower freight rates will be secured, and that the fruit will be so consigned as to reach markets where it will always find a ready sale at fair prices. The capital stock is \$250,000, and every fruit-grower has an opportunity to purchase as many shares as he has acres of bearing fruit ground, at the rate of one dollar a share. A similar organization exists in Florida, with headquarters at Jacksonville.

FRUITS IN WINTER.

The following note taken from the Los Angeles *Daily Herald* of December 10th, makes a great showing for the fruit capacities of Southern California: "A visit to the fruit stores, yesterday, December 9th, was very interesting. An examination of the fruits and vegetables in the market revealed a wondrous variety for mid-winter, consisting of the following, all raised in the city and suburbs, and fresh from the orchards, vineyards and gardens: Apples, Olives, Peaches, Pears, Guavas, Limes, Lemons, Oranges both old and new, Grapes, Watermelons, Squashes, Persimmons, Strawberries, Raspberries, Dates, Bananas, Tomatoes, Red Peppers, Pomegranates, Pineapples, new Potatoes both Sweet and the ordinary varieties, green Peas and green Corn. What other place 34 degrees north latitude can show such a winter growth of fruits and vegetables?"

KENTUCKY'S FAMOUS REGION.

The "Blue Grass Region" of Kentucky is famous for many other things besides its whiskey. Its inhabitants consider it "one of the very beautiful spots on the face of the earth," as is chronicled by Mr. JAMES LANE ALLEN, who has a paper on it in the February *Harper's*. Accompanying his description, there are some noteworthy illustrations by Mr. JULIAN RIX.

A PINK EDGING FOR BEDS.

Some years since I came into possession of a large clump of the white "Florist's Pink," *Alba fimbriata* of some catalogues. Admiring it greatly and wishing to increase my stock, I picked it all apart, breaking off every branch at a venture, hoping it would grow from the cuttings, as most Pinks will without any further trouble. This was in the early spring, as soon as the soil was fit to work, and I planted the cuttings pretty deep, quite up to the tuft of leaves that crowned each long, straggling stem, pressing the earth down firmly, tramping it close up to the plant; I watered them every evening for a few days. They began growing immediately, apparently not heeding the absence of roots in the least, and blooming abundantly. By the next spring there was quite a nice bed of Pinks, and now, wanting something for a border for some new bower beds just made, I took up all my Pinks, breaking them apart, branch by branch as before, and set them along the edge of the beds about six inches apart in the rows, and as far as they would go. They grew finely and bloomed freely, as before, the plants soon meeting and making a compact border six inches wide, or more.

Another year, wishing to extend my border, I broke off of that already established as many cuttings as I could without spoiling its appearance, taking a piece here and there as it could be spared, and soon found myself with a quantity of cuttings to set out.

Now, in the fifth year, I have many yards of bordering from twelve to eighteen inches in width, rounding beautifully over the brick edging of the beds down into the walk, a firm, compact rounding mass of lovely gray-green foliage the year round, and when in blossom for many weeks a wreath of drifted snow, spicy and fragrant enough to perfume the whole neighborhood and attracting the admiration of all who pass.

During my cultivation of this Pink I observed that if set as border to beds without a firm edging of some kind so that the plants were broken down or the soil washed away from the roots, that it died away in patches and soon became unsightly; but when planted close to the bricks and the earth kept worked up, and pruned close to the roots, it flourished

exceedingly. When done-blooming I clip off the dead blossoms and shear over the whole surface of the border, which makes it look much better and induces a new close growth. I have never had anything for a border so handsome in appearance and so easy of cultivation.

It will not stand the slightest covering or protection in winter; wherever the leaves drifted on mine and remained all winter, the foliage beneath them was killed by the dampness, I suppose.

I have increased my German Pink in the same way, but find it of much slower growth, though rooting without difficulty, and not a very free bloomer, not flowering until June or July, although continuing then to bloom until frost. This variety is one which I purchased some years ago under the name of *Dianthus Querteri*.

I would like to know if there are other Pinks of the same class, hardy perennials, as valuable as these, as hardy, as handsome and as easily grown. I have the old fashioned pink-colored Scotch or May Pink, but its habit of growth is more scrawny and straggling, and the flowers are not so good in any way.

S.

MEALY BUG AND SCALE.

In the whole course of a very varied practice, I have never had much trouble with these pests. My first impressive lesson in the use of a hose and a powerful head of water was in the Great Palace house, at Kew; when the Palms, from forty to fifty feet high, became badly infested with mealy bug, the engineers would be directed to pump a full head of water, and a laborer would climb with a hose up under the roof, by ladders reaching from the gallery, and from this vantage ground every cranny of the foliage was brushed clean by the full force of the water. The only trouble was the too long intervals which ensued; it was quite an undertaking, and disagreeable. The insects would in some cases whiten the floor. But in a small plant house, supplied with a good force of water, no tough plant need have a mealy bug upon it, if the water can reach it. Climbers are the most troublesome, especially if dense. Tender plants may be dipped in the solution of soap at 130° Fahrenheit, for a moment only.

The various forms of scale are more

difficult, but I have several times entirely eradicated them. Get boiling "suds" from the laundry, drop a pound of soft soap into every four gallons, stir, and let it cool to 135° Fahrenheit, then rapidly syringe it so as to cover every leaf. I have used it on Camellias and Oranges much hotter, but 130° or 135° is enough; repeat every week until all are killed.

JAMES MACPHERSON.

MASS. HORT. SOCIETY.

At the annual meeting of the Massachusetts Horticultural Society, on the second of January, the retiring President, JOHN B. MOORE, delivered his valedictory and reviewed the events and condition of the Society during the past year, and congratulated it upon its prosperity. "Among the causes of this prosperity are the lectures, essays and discussions conducted by the Society, which have been of a high order and have given new ideas to the members and others; have informed them of new methods of culture, awakened an interest which is shown in the exhibitions, and given the Society a high standing in other places. Much credit is due to the committee on publication and discussion for their efficiency in this work."

The newly elected President, Dr. HENRY P. WALCOTT, in his inaugural appropriately mentioned some of the more prominent members who have died within the past year, and he "then turned to the veterans among the living—to HENRY A. BREED, one of the founders and the oldest living member of the Society, whose presence was a source of gratification to all; and to MARSHALL P. WILDER, whose active concern in the Society has spanned almost the whole of its existence, and whom he thus addressed: 'Venerable leader of us all—old only by the written record, young in enthusiasm for our captivating art—long may you be spared to us and to this world of flowers and fruits.'"

* * * * *

The committee on gardens, in addition to the usual report upon the condition of gardens visited, have given a well-deserved notice to two subjects of unusual importance. The first of these is the movement for establishing a great natural park in the Middlesex Fells. Whatever help the influence of this Society can

give should be lent to a plan that offers, not to this generation alone but for all time, the educational advantage of a great wild garden, unequalled in extent or variety. The second subject treated is fortunately a fact accomplished—the Arnold Arboretum, endowed by an honorary member of this Society, carried to its present stage of success and abundant promise for the future through many and perplexing difficulties by our honored associate, CHARLES S. SARGENT. The treasures of this collection, already known to a few, can only be appreciated when the directors' plans for final planting are fully carried out, but the advantages of a collection of trees and shrubs, hardy in this climate, correctly named, have already been felt.

SAN JOSE VALLEY.

We are now, December 14th, having delightful weather after a more than usual rainfall, and the earth is rapidly putting on her mantle of green, and the farmers are busy getting in their crops. This is the resting season for the garden, though many flowers seem reluctant to cease blooming. Heliotropes, Geraniums, Chrysanthemums, Marguerites, Verbenas and Roses are competing with Violets and Pansies, but they will soon have to give place to the latter and the Dutch bulbs, which are rapidly coming forward. They are reminding us that a new season is upon us. This valley is called the gem of the State, and there are few places in the world its equal for health, climate, landscape and society; churches and schools abound. Within the last twenty years it has changed into orchards and vineyards and lovely homes. Come and see.

J. A. C.

THANKS.

"Stella Ray" returns thanks to H. A. N., Fairfield Centre, Me., for name and description of a seven petaled flower, representing the heptagon—*Trientalis Americana*, or Chickweed Wintergreen. It seems to supply the "missing link." But we may still query why the number seven is so unpopular with Queen Flora.

At the proper season for transplanting, a well-rooted plant would be thankfully received by

MRS. M. B. BUTLER, *Xenia, Ohio.*

THE ENGLISH SPARROW.

I think the time has come for the people of this country to discuss the question of the extermination of the English Sparrow. My own judgment regarding these birds is, that they are not only an intolerable nuisance in cities and villages, but that they do a great amount of damage in gardens and to small fruits. They will select the finest Plums, Grapes and Gooseberries, and punch them full of holes; Lettuce, Radishes, Sweet Alysrum, &c., just up, prove good eating to these gormandizers. In fact, it must be the best of everything that will tempt the dainty robbers. They will eat spiders, but they shun the Currant worm and other pests of the garden. They will pick the buds from fruit trees and Currant and Gooseberry bushes in cold weather when other food is scarce. Their mission is, apparently, to destroy. They will destroy the nests of those birds most friendly to the interests of the garden and orchard, and drive them away, in fact, do anything but good.

It is said that the Buffalo moth, or Carpet bug is bred in their nests. Some housekeepers date the coming of Carpet bugs and Sparrows the same. I believe it; in fact, I am prepared to believe anything bad that may be said of them, for I am certain but little can be said in their favor.

Last spring, I declared war against them, and my battle cry is "no quarter." My weapon of destruction is a single barrelled shot-gun loaded with a full charge of powder and dust shot. I scatter bread crumbs on the ground near a tight board fence or barn, and when the enemy gets to eating and fighting, I blaze away, killing from five to fifteen at each shot. So much for the summer campaign. This winter, I propose to establish feeding places, keeping them well supplied with food until I get their confidence. I will then add allopathic doses of strychnine to their food. Should any of them get an over dose, their carcasses will be "good for" cats—another great nuisance in gardens.

Many good people will look upon the killing of Sparrows with great disfavor, and cry it down. But to such I will say, that the time is soon coming, as it has already come in other countries, when we will be compelled, from actual necessity,

to work for their extermination. It will be a lengthy contest, for they increase very rapidly. Farmers and market gardeners now complain of their depredations.

SAMUEL L. DAGWELL.

A PLANT TABLE.

Some years ago I made a flower table similar to the one figured in the November number, except that it was perfectly plain and without lattice work and arches. It was painted several coats inside and was water tight, but it did not prove very satisfactory. In moving it about the strip along the edge is liable to be wrenched so as to crack the paint and allow the moisture to soak into the seam and cause the wood to decay. I would suggest the following improvement, which will cost but little more and will keep the table water tight as long as the wood will hold together. Get a sheet of zinc four inches longer and four inches wider than the inside measure of your table. Cut a square out of each corner exactly two inches each way. Bend up the two inch strip along each side and end and have the corners soldered together. You then have a pan two inches deep and just the size of your table. Put it in place and tack to the sides, then paint the edge of the wood and fill the seam between the zinc and the wood with paint. A tinner should not charge more than twenty-five cents to cut out and solder the corners. The zinc will cost but little more than the expense of two or three coats of paint. It will last much longer and prove more satisfactory.

W. C. STEELE.

A GARDEN EDGING.

A correspondent sends the following note:

"In the village of ———, California, the favorite way of edging walks, flower beds, etc., is with old wine, ale or beer bottles inverted. I wonder what suggested so horrible a practice. I would gladly exchange these bottle-bordered beds for those white-washed rockeries which so offended the poetic taste of EBEN E. REXFORD. The white-washed rocks would not make me think such evil thoughts of the owners, for I can't help wondering if they drank all the vile stuff those bottles once contained.

FLORAL GOSSIP.

A correspondent writes that she thinks the *Amaryllis* one of the finest of all flowers, but can't have any luck with it. She tries to get it to bloom, but but has never succeeded. Can I tell her what to get that is like the *Amaryllis*, but easier of cultivation? If she cannot have just what she would like, she will take up with the best substitute for it. I would advise her to try the *Vallota*, or *Scarborough Lily*. This is really an *Amaryllis*, though it differs from the varieties usually sold under that name, so much that many persons think it belongs to another class of bulbous plants. Instead of dropping its leaves, as that class of the *Amaryllis* does of which *A. Johnsonii* is a type, it retains its foliage from year to year, and grows steadily. Other members of the family insist on taking a rest, but this does not. It blooms, usually, in August or September. A flower-stem is thrown up to a height of fifteen or twenty inches, on which is borne four, six or eight beautiful Lily-like flowers, of most brilliant scarlet. This plant is of the easiest culture, requiring merely a good soil, rich with well decomposed manure, and light with sand, and enough water to keep the earth quite moist all the time. Drainage should be attended to, for the plant is one that does not like stagnant water about its roots. The *Vallota* is really as fine as very many of the costly *Amaryllises*, and is as easy to manage as any plant I know of. I think my correspondent will find this to be the very plant she is looking for. A good many new bulbs will form about the old one. These I would let remain to form flowering bulbs. With several in a pot, you get a great many more flowers than you will with but one bulb. In spring, dig out as much earth about the plant as you can without disturbing the roots, and fill in with fresh soil. The *Vallota*, when grown in pots, does not like to be disturbed, and frequently refuses to bloom after having been repotted.

Another correspondent asks me to tell her of some good white flower for the house. She wants something that will bloom freely, without requiring too much care. I think the new *Feverfew*, *Little Gem*, is what she wants. This variety is a dwarfish, compact grower, and a most profuse bloomer. Its flowers are pure

white, quite double, and produced all through the season. It is one of the best white winter flowers.

An excellent plant for the fernery is *Lygodium scandens*, or *Climbing Japanese Fern*. It has finely cut, bright green foliage, borne on slender, wiry stems. It can be trained up the corners of the case, along the sides, and festooned over wires placed across the top for a support, with admirable effect. It is a rapid grower under glass, and flourishes there much better than when fully exposed to the atmosphere of the room. It is, however, a fine window plant if care is taken to sprinkle it at least once a day all over its foliage. It is impatient of dust, and in a dry air is subject to the red spider. Water properly used will remedy these evils.

I have been using the kerosene emulsion, spoken of in last year's *MAGAZINES*, for the mealy bug, and find it works well. I prepared it by putting slightly sour milk into a glass fruit jar with the required amount of kerosene. This I "churned" by inserting the end of a large brass syringe into the mixture, and working it pretty forcibly for a few minutes. In a short time the contents of the jar will thicken and become a smooth, jelly-like mass, which can be kept for use when needed, if excluded from the air. When put into water, use the syringe to mix the two thoroughly. This emulsion has not injured the tenderest plant, and is sure death to mealy bugs and aphids.

If you want a striking and graceful plant for a vase, and one which will not require much care, you cannot do much better than to get *Pandanus utilis*, a variety of *Screw Pine*, having leaves about three-quarters of an inch wide, and from eighteen inches to two feet long. These leaves are edged with sharp, saw-like teeth, which make them rather unpleasant things to handle without gloves. They are produced from a short central stem in considerable quantity, and each one curves out and over the pot gracefully. A well grown specimen kept free from dust is always sure to be greatly admired. The plant is one that improves with age, and requires no special treatment to keep it growing and looking well. If the foliage becomes covered with dust, wash it by drawing a cloth or sponge along the leaf toward the point.

OUR LITTLE BEAUTIES.

Several of our prettiest flowers are liable to be overlooked, owing to their modest appearance. The flower lover will not fail to appreciate them when once he has cultivated them. Of these I will note a half dozen.

Gilia, a delicious little flower; *G. tricolor* is white, or white and blue, and has a delicate spicy odor. *G. tricolor rubra* is lilac colored and white. Besides these the *G. capitata* is a soft blue. Delicate as the *Gilia* seems, it is extremely hardy, enduring a severe frost, and often appearing after a snow storm uninjured.

Godetia Bijou, a dwarf but excellent plant, covered with flowers of white and red.

Dwarf *Ageratum*. The *Ageratums* are always in bloom, and always sowing themselves. The dwarf variety, about four inches tall, is a delightful blue. It makes as good a window plant as a garden flower.

If you have not tried the dwarf *Asters*, send and get the seed this spring, and set the plants about ten inches apart, when you will have a solid mass of charming blossoms ranging from scarlet to white.

The Candytuft has become a flower of most elegant shades of color. My bed includes at least six very distinct colors, from white to purple.

The annual *Lobelias*; these are white, blue and red, and as lovely as they are graceful and delicate.

Forget-me-not, blue and white, is easily grown in a somewhat shaded, cool bed, and will resow itself.

Clarkia alba and *rosea* are truly very fine, especially *alba*.

E. P. POWELL, *Clinton, N. Y.*

TOBACCO SMOKE.

The *Scientific American* reporter has been about the barracks of the Washington Navy Yard, and in conversation with Major HOUSTON, who is in charge, learned that of hundreds of boys who apply for admission to the navy many are rejected because they cannot pass the physical examination. One-fifth of all the boys, he says, are rejected on account of heart disease.

His first question to a boy who desires to enlist, is: "Do you smoke?" The invariable response is, "No, sir;" but the

tell-tale discoloration of the fingers at once shows the truth. The surgeons say that cigarette smoking by boys produces heart disease, and that in ninety-nine cases out of one hundred the rejection of would-be apprentices on account of this defect comes from excessive use of a milder form of the weed. This is a remarkable statement, coming, as it does, from so high an authority, and based on the results of actual examinations going on day after day, and month after month. It should be a warning to parents that the deadly cigarette is sure to bring about incalculable injury to the young.

THE PORTFOLIO.

The great labor of preparing the plates of the Portfolio postponed its issue until the 18th of January, but all agree that the great excellence of their execution is a sufficient excuse for the delay. Good judges consider these plates the finest specimens of chromo-lithography ever sent out in this country. As copies of the original paintings it would be difficult to point out a deficiency, and their entire truthfulness to nature gives them a merit of the highest order. The typography of the letter-press is one of the best specimens of modern printing, and the Portfolio, as a whole, we offer to all those who admire flowers and fine paintings, as a gem of its kind. Thousands of our readers should possess themselves of it through our offer of it as a premium for a club of four subscribers to the MAGAZINE. It is never too late to begin to work for it, and as the plate of *Roses* and *Pansies* is given to every club subscriber, there will be but little difficulty in securing the members of the club. Those subscribers who have received the *Rose* and *Pansy* plate can use it to show in getting subscribers, and when the club is sent in they will receive a new copy of it in the Portfolio. Any others who may want the plate as a sample to exhibit for the purpose of getting a club can have it sent to them by sending us 35 cents for it, and when the club is sent this amount can be deducted, so their sample copy will cost them nothing.

The plates are ornaments that every lady will prize for the parlor table, the easel or the wall, and we trust that our friends generally will avail themselves of our offer, and thus help directly and in-

directly in beautifying the homes of our land with handsome specimens of art and the spread of pure horticultural literature.

IRIS PAVONIA.

Will some one kindly tell me how to make *Iris Pavonia* bloom? I have tried it two years in succession, and have failed each time. I have used the best imported bulbs, and have always succeeded in growing plenty of "grass," but not a sign of a flower. When growth ceases, I always find the bulbs of good size and well ripened. I never see it mentioned except in the catalogues, and fancy it is not an easy thing to grow it successfully.

There are two other flowering bulbs, however, with which I always succeed admirably, the *Ixia* and *Sparaxis*. They are very easily grown and increase rapidly. Being favorites of mine I grow several pots each year. They much resemble a miniature *Gladiolus*, and are of numerous colors, while some varieties are delightfully fragrant. They are subject to attacks of red spider if grown in too dry an atmosphere, but these are easily kept in check, as the sword-shaped leaves can be readily sponged off. They require plenty of sunshine and a liberal supply of water, with perfect drainage, however, for they love moisture. I grow them in four or five-inch pots, planting three bulbs in a pot. When growth ceases, I dry them off, shake off the soil and store them away in a cool, dry cellar until the next fall.

As I rarely see any mention made of these, to my mind, charming plants, I thought this might be of interest to some readers of the *MAGAZINE*, for I think they deserve more than a passing notice.

L. H., *Cowansville, Que.*

SEED-SOWING IN FEBRUARY.

Many kinds of seeds can be started this month in the greenhouse or conservatory, especially those requiring some time to germinate, and those of which the plants need to be well advanced for planting out. Among these may be named the *Ampelopsis*, the *Bignonia* and the *Clematis* among the hardy climbers; the *Cobæa scandens*, *Linaria Cymbalaria* or *Kenilworth Ivy*, *Passiflora cœrulea*, *Maurandya*, *Thunbergia* and *Smilax* among the tender climbers. *Canna*, *Dahlia*, *Yucca* and *Cyclamen* seed can

now be sowed to advantage. The following named plants for bedding can be raised from seed, and they will be all the stronger for an early start: *Centaurea gymnocarpa*, *C. candidissima*, *C. Clementi*, *Cineraria maritima*, *Glaucium corniculatum*, *Lobelia Erinus compacta* and *L. compacta alba*, and *L. pumila grandiflora*, *Golden Pyrethrum*, and do not forget to sow plenty of *Verbena* seed. Other kinds might be mentioned, but particularly *Geranium* when new varieties are desired, and the Apple-scented variety, *Calendula Meteor*, *Pansy*, *Petunia*, *Ten-Weeks Stocks* and *Myosotis*.

For the vegetable garden, when suitable frames or other convenience will be ready to protect the young plants and carry them on until time to plant out, seeds of *Tomato* and *Egg Plants* can be sown; under some circumstances *Cucumber* seeds can be started.

WHITE AND BLUE SPRUCE.

Mr. C. G. PATTEN, a resident of Charles City, Iowa, confirms the statements of ROBERT DOUGLASS in regard to the superiority of the *White Spruce* over the *Norway Spruce* for hardiness and beauty. He also mentions some trees of *Picea pungens*, or at least a variety of it, growing about two miles north of Floyd, in the same State. "Many of these trees have quite a silvery appearance. The foliage is very dense, and never injured by our extreme winters, being much more hardy than the *Norway*." This is the *Colorado Blue Spruce*, which will, undoubtedly, be widely planted when it becomes better known, and is more generally propagated.

AN AMARYLLIS.

One of our readers writes to us, as follows: "Last May there was a question about the treatment of *Amaryllis*. I have one that seems remarkably fine; I will mention some things about it. When given to me there were three roots in the pot, they have now increased to five. Last year there were forty-three leaves on the whole, many of them one yard and three-eighths in length, seven flower stems each bearing five beautiful crimson flowers—thirty-five in all. I could not get a pot large enough, and I thought I should have to separate the roots, but a florist whom I consulted said, no—it would retard growth and bloom, and

they look so handsome together. They have already, now, three fine flower stems, and will soon have more. They are not fond of much sun—the morning sun suits them best. Then, they droop in summer, even though they are resting, unless they have water, and I give them some every day—not much. But this plant blooms twice a year; I wish you could see it, for I know it would rejoice your heart. It is planted in a large tub, and looks quite grandly down on us.”

OFFSHOOTS.

The wave of Arctic rigor that swept over this continent on the 8th and 9th of January did not spend its force until it passed out on the Gulf of Mexico. Early planted vegetables in the South were destroyed, and tender trees and plants of all kinds suffered severely. The mercury dropped nearly to zero in Texas, and in Florida, near Jacksonville, a Northern youth gave the native Floridians an exhibition they had never before witnessed, that of skating on a pond near an Orange grove. In the Northern part of this State, New England, Canada and the Northwestern States, the thermometer indicated from ten to forty degrees below zero, according to locality.

The *American Florist* has issued a fine colored plate of the new Rose, Her Majesty. The painting of the full blown flowers measures nearly six inches in diameter, and is said to be an exact representation. It is, undoubtedly, a magnificent Rose, but we can't help thinking that, with one of the flowers in the hand, one would feel that it was almost too much of a good thing; but, perhaps, those who raise it won't be greatly troubled about the size.

Even California is not exempt from severe frosts this winter. A correspondent in Los Angeles County writes us that on the first, second and third of

January there were frosts that killed Tomatoes and Beans.

Chemin Celery proved on our trial grounds, last season, to be an excellent early, dwarf variety, very compact and solid, more dwarf than the White Plume, self-blanching, creamy white, solid and of good flavor.

The Company at Stockton, California, engaged in the manufacture of buhach, or insect powder, have two hundred and seventy acres under cultivation with *Pyrethrum cinerariæfolium*.

The Keiffer Pear is poor in quality, and the tree is more tender than most other sorts—winter killing very commonly in the West and Northwest—about as hardy as a Peach tree.

The cold wave of the 8th and 9th of last month, has chilled the boom for Florida lands. The frost line in that State has been found several inches under ground.

A Subscriber informs us that the root of the plant, Man-of-the-earth, mentioned in our last number, is used medicinally by the Indians for Asthma.

The pruning of vines and fruit trees can be carried on this month, and it is better that this work should be completed before spring.

The Lawson-Comet Pear is handsome in appearance, but of very poor quality, and unworthy of a place in the family fruit garden.

The Seed House of D. M. FERRY & Co., of Detroit, Michigan, was wholly destroyed by fire last New Years Day.

It is well to remember that early Potatoes were less affected by the blight last year than late ones.



OUR YOUNG PEOPLE.

A BIT OF REAL LIFE.

Such a happy household as there was that morning!

It had just been decided that Rupert Loring, now in his eighteenth year, and a graduate of the high school, was soon to begin a course in mechanical science in the State University, for hadn't the very sight of tools always set his fingers to itching, and a set of geometrical instruments affected him like an inspiration. Now his most ardent wish was to be gratified; and not only this, but from the same loving, careful dispenser of the family expenditures had come also a promise to his older sister, Florence, of a three months' visit to an uncle in San Antonio, Texas.

She had often imagined herself in that quaint city, with its historical Alamo, its adobe houses, antique stone mansions, ancient cathedrals and numerous bridges, of which she knew little now, save from the photographs sent to her. She had often tried to fancy how it would seem to see Mexicans, Spaniards, Indians and cow-boys mixing with the business population. And she knew she should be quite fascinated with the winding river from which the city takes its name, and which suddenly leaps from its subterranean channel but three miles away, though lengthening its course to twelve or fifteen miles by curving about as though giddy with its sudden transition from its native darkness to the light of the sun, and continuing its serpentine course within the city, as if loth to leave it, while its swift current feigns great haste to be gone. Yes, and its banks, she was sure must be charming, with their tall Cannas and other tropical plants, overshadowed by trees interspersed with the Bananas, Figs and Pecans. She should feel quite happy, she declared to her brother, to leave behind her for once the bleak northern winter, to make this, her first visit to tropical regions. And so the sister and brother felicitated each other that morning on the near fulfilment of their wishes. To add

to their happiness their parents did not try to disguise the satisfaction they felt at being able thus to gratify their children by only making a few more sacrifices themselves,—these being none the less sacrifices because they should not consider them as such.

What potent magic hath love's alchemy that it can transmute positive sacrifices into pleasures!

The very next morning, at the breakfast table, the young people saw that their parents were laboring under a depression they tried in vain to disguise. The efforts of Florence and Rupert to enlist them in cheery conversation were futile, though every look and tone of their parents was full of exceeding kindness and gentleness. Finally, lapsing into silence, they could but wonder what sombre thing had loomed up so suddenly, and in just the right range, too, to cast its eclipsing shadow exactly across the sunshine of *their* particular household. They looked at each other questioningly, but could not imagine.

They had not long to wait. Before hastening to his business, Mr. Loring approached his son, saying, with much emotion:

"Rupert, my boy, should you in after life feel constrained to help a friend in need, I hope it may not recoil in trouble and disappointment upon those you love best. Have I your confidence, my son? and may I hope to keep it, whatever may betide?"

"O, yes, father, yes; why do you ask such a question?"

"Your mother will explain. You and Florence go to her now, she is waiting for you."

Mrs. Loring bade her children be seated, and immediately remarked:

"You will remember that, sometime ago, Mr. Spencer lost heavily by fire. His father assisted yours when he was young and needing a friend, and there never seemed any way of making a fitting return. So, when the son asked him to

go his security on a note of short time he could not refuse. But business depression caused other losses, resulting in several renewals of that note, until now your father has it to pay. He feels this the more keenly because he has always claimed that it is wrong for a man of family, with small income, like himself, to allow the use of his name where it may involve loss to those dependent upon

gained firmness enough for moderate speech first, and said, quietly:

"I don't see how father, under those circumstances, could have done otherwise than he did; nor do I see how a man who foreknows that his creditors are to suffer loss, can help arranging matters so as to save those who are least able to bear it. And, mother, I can't keep from thinking that Roscoe Spencer



SCENE ON THE SAN ANTONIO RIVER.

him, and who have the first right to his honestly acquired means." After a painful pause, Mrs. Loring continued:

"Of course, you understand, my dears, that this unexpected turn in affairs will interfere with your present plans for leaving home."

But her "dears" were silent, and she went on: "Yours, Rupert, is the more serious disappointment of the two, because it involves that part of your education which pertains to your future choice of business. I don't think it possible you can feel this reversal more keenly than your parents do. Your father is inexpressibly hurt by it." Then, after a silence, "Have neither of you a word to say?"

Both had been trying to repress an outburst of disappointment, but Rupert

will be sent back to Yale just the same and not required to make the least sacrifice. He spoke to me of his return, last evening, and inquired what I was going to do now, and, of course, I told him I was going to the State University, and I really took a little quiet pride in adding that sister Flo would spend the winter in the South."

Here Florence found her tongue: "Yes, you thought that for once we were going to do a little like other people! Those Spencer girls, who have been to Europe after traveling all over this country, wouldn't be able to comprehend in the least what the loss of this poor little trip is to me, who have scarcely been outside of our own State."

She was too full to say more, and her mother quickly rejoined: "I know, I

know, dear; I thought of it all in the first five minutes after the news. But we must not forget that those girls have seemed worthy of any good fortune that came to them, and would always have been as companionable for you, had you ever met them half way, as I myself have found their mother to be. The girls will, no doubt, suffer keenly now, as your father says they have to give up their beautiful home, while for us no change is required in our usually plain, but very comfortable, way of living, which is certainly something to be thankful for."

With these words she concluded the interview and left them to themselves, not thinking best to intrude upon them just yet a wish that had taken form in her mind during the sleepless hours of the previous night. But when evening came she took occasion to say that she wished them to call on the Spencers the next morning and leave an invitation for the family to an informal tea and lunch for the following evening, "just such an invitation," she added, "as they are accustomed to receiving from us."

"Why, what an idea!" exclaimed Florence, "do you think us so saintly that we can do that now? Besides, they visited us last."

"Whether last or not, the state of matters between us now renders it imperative that we make the first overtures ourselves, lest they think us embittered toward them by this business trouble. How can they know we are not, unless we extend to them some evidence that our friendliness for the whole family is not to be sacrificed because of the misfortunes, or even mistakes of one of its members." Noticing still an unpromising look in the faces of her listeners, Mrs. Loring continued:

"Florence, Rupert, I have sometimes perceived in you both indications which gave promise of a heroic generosity of nature. If I am to be disappointed in this, and you find in the morning that you cannot make this call without dissembling your real feelings, then I will go in your stead, and do my personal duty without your support. I leave you to think of it and talk it over."

When left to themselves, Rupert exclaimed: "Was there ever such a woman before?"

"No, never," replied his sister. "She

seems to forget that she is to suffer any privation through this loss, and worries only about the rest of us, the Spencers included, lest even they are too much troubled on our account."

"Well, suppose we suspend further judgment on that family until we shall have seen them, for, of course, we shall have to make the call, since mother wishes it; and if we have no 'heroic generosity,' it is high time to begin to cultivate it."

Florence and brother were received by the Spencers, next day, with much quiet warmth of manner, and the invitation was cordially accepted. When, finally, the callers were about leaving, Maud Spencer inquired of Florence how soon she expected to start for the South. Florence hesitated only an instant, and then replied, as brightly and cheerfully as possible:

"I have decided to defer my visit until another season."

Rupert, fearing the next query would be to himself, hastily asked Roscoe when he should be off for Yale.

"I am not going," he answered; "when do you intend to leave for the University?"

"The day isn't set; I'll let you know before I'm off," replied Rupert, laughing a little; but Mabel's searching eyes instantly read the embarrassment of his indirect answer, and she immediately cried out:

"O, mamma! it's just as we feared," and throwing her arms around Florence's neck, she sobbed on her shoulders:

"O, Florence, Florence, Grandpa Spencer used to say that he never knew two more noble persons than your parents, and now it is proven; and their children are just like them. You cannot know how it hurts us to feel that we are in the way of your happiness."

This was too much for Florence. There was an earnest protest on her part, and cheery, hopeful words from both Rupert and herself of what all the future probably had in store for both families; and when Florence and her brother returned home, their mother was no less surprised at the change in their feelings than gratified with the interest they evinced in planning pleasures for the social evening.

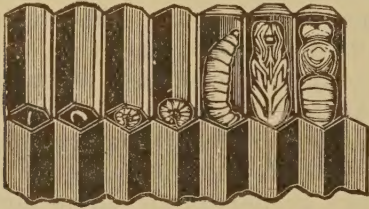
MARIA BARRETT BUTLER.

A LOOK INTO A BEE-HIVE.

PART I.

"Oh, Uncle Charlie! here's a bee on the window. It will sting us to death."

"My dear Grace," said Uncle Charlie, as he quietly picked the bee off the window in such a way it could not sting him, and put it out of the door, "the poor bee is more scared than you, and is only too glad to get away. Let me tell you a fact that may hereafter save you some nervous anxiety. No bee will ever sting you away from the immediate neighborhood



1 2 4 5 7 15 18
FROM THE LARVA JUST HATCHED TO THE BEE.

The figures underneath are intended to represent the age in days.

of its hive, unless you pinch it. Come out with me, and perhaps I can prove it to you." By this time Grace's two brothers, Ralph and Daniel, who were also on a visit to their Uncle's, became interested, and went along to see what was to be learned. They did not need to go far to find flowers with bees working on them. Uncle Charlie slowly placed his hand over a bee which was busily engaged upon a flower, and closing the fingers lightly upon it held the bee a prisoner. Grace looked on with alarm, while Ralph, who was a quiet, thoughtful boy, asked:

"Why doesn't it sting you, Uncle?"

"Because," replied his Uncle, "it is held as if in a box, and is only intent on getting out. See, wherever I open a little crack, it tries to push its head through. Now I'll free it," and out came the bee and began circling about. A look of distress on Grace's face made her Uncle say: "Don't be in the least alarmed; you couldn't induce that bee to sting one of us short of catching it and pinching it."

Just then a vigorous "zip" from little Daniel was heard, and that young gentleman was making lively motions with his right hand, and looking very red in the face. Directly, the remark, "It stung me," came out with a jerk. Grace's sympa-

thies were thoroughly aroused and she began eagerly asking what could be done for it.

Uncle Charlie said the main thing was to take out the sting, and he immediately scraped off the sting with his finger nail, saying, "Never pull out the sting with your thumb and finger, for the poison bag is always left with the sting, and pulling it out in that way squeezes more poison into the wound."

Upon inquiry, it was found that Daniel had been experimenting on his own account, and had caught a bee on the flowers. Said he, "I didn't think it would sting me; it didn't sting Uncle."

"Yes," said Uncle Charlie, "but you didn't make a little box of your hand, so as not to pinch it, as I did."

"Perhaps," said Uncle Charlie, "you would like to see the inside of a hive." So he got for each a bee veil, made like a bag, open at each end, to slip on over the hat. "Now," said he, "no bee can sting you, and it is a curious fact that even if a bee should get inside your veil, it will not sting you, but spend all its energies trying to get out. This instrument in my hand is called a smoker, and you see when I puff a little smoke on the bees they scramble out of the way. It seems to frighten them, so they will not sting. Now I will lift out one of the frames of comb."

"How black it is," said Daniel. "I thought honey comb was white."

"Yes," said his Uncle, "what you have seen on the table is very white, and so



QUEEN.

DRONE.

WORKER.

was this when first made, but as the bees travel over it year after year it becomes very black. There are just twenty-five of these cells to the square inch, or fifty counting both sides of the comb. This is worker comb, and the eggs laid in these cells, under ordinary circumstances, will hatch out worker bees. If, however,

the colony becomes queenless, the bees may select the occupant of any worker cell, and give it such food and care that it will produce a queen. Look in the bottom of these cells carefully, and you will see eggs. They are not as thick as a common pin and three or four times as



DRONE-COMB.

WORKER-COMB.

long as their thickness. It takes about three days for an egg to hatch, and in adjoining cells you will see white grubs coiled up in the bottom of the cell. Some of them have just hatched out, and you can hardly see them with the naked eye. Others fill up the cell pretty well, and were hatched about a week ago. Then you can see them of all intermediate sizes. After the grub hatches out of the egg it is fed by the workers for about six or seven days, when they seal it over. You see a great many cells thus sealed over, and after being sealed over the grub, or larva, as it is properly called, spins a cocoon about itself, and in twenty-one days from the time the egg was laid, the young bee gnaws its way out of its cell, a perfect worker. A drone is hatched in twenty-four days from the laying of the egg, and a queen in sixteen."

"Oh, see the big bees!" said Daniel, pointing quickly with his finger, almost touching them.

"Careful, careful, my boy," said his Uncle, "or you may get another sting."

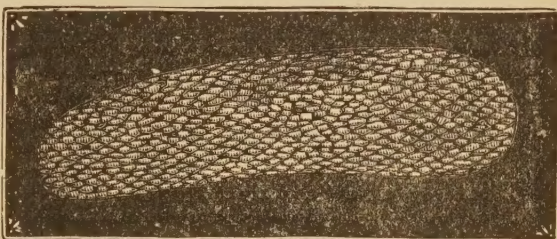
Daniel's hands were instantly in his pockets.

"One of the first things to be learned in handling bees," continued his Uncle, "is to make no rapid movements. Be gentle with them. Those big bees are drones, and have no stings. On this next frame we find a small patch of drone-comb. You see the cells look much larger. They measure sixteen to the square inch, or thirty-two on both sides. But we haven't seen the most important member of the community yet. Ah! here she is," as he lifted out another frame.

"She is longer than the workers," observed Ralph, "but her wings look short."

"Does she control all the rest?" asked Grace.

"Very far from it," was the reply; "instead of being called queen she should be called mother bee, for she does nothing in the world but lay eggs. How



EGGS UNDER THE MICROSCOPE.

many do you think she can lay in twenty-four hours? Guess big."

"Twenty," said Grace.

"Fifty," said Ralph.

"Five hundred," said Daniel, and was laughed at by the others.

"None of you have guessed enough," said their Uncle. "At her best she can lay three thousand eggs in twenty-four hours."

C. C. MILLER.

WORD PLAY.

A newspaper amusement much in vogue in France of late, is a sort of cross-purpose play upon words by commingling the definitions of words that are homonymic in sound, but have quite different significations. Here are a few examples; some of the young readers of the MAGAZINE can, no doubt, extend the game.

DEFINITIONS FROM THE NEW DICTIONARY.

Apparent, Either a father or a mother just

coming round the corner.

Sunday, One of the old Governors of Algiers with his heir; one of seven.

Forty, Two scores played very loud.
Wilful, My obstinate cousin after dinner.

Captain, Must mean, I think, one of metallic helmets worn on the head of a company.

W.

EDITOR'S MISCELLANY.

THE SEED BUREAU.

The value of the Department of Agriculture to this country cannot be too highly estimated. When we consider what has already been accomplished by the bureaus of Chemistry, Botany, Entomology and Animal Industry, and what these and other bureaus of the Department are now doing, we are satisfied that their expense is fully justified by their results, and we can only hope that they will continue to be administered by the best and most progressive scientific men that can be secured for the service at whatever needed expense. To these conclusions there is but one exception, and that, as all our readers are aware, is the seed bureau. Its management in the past can only be characterized as a disgrace to the Department and an imposition upon the people of the whole country. It is unnecessary now to mention in detail the abuses of this bureau, as they are too well known. With the accession of a new political administration, and a new Commissioner, the people have looked forward to a reform in this bureau. There is no doubt that Commissioner Coleman understands his responsibilities, and is disposed, personally, to administer the affairs of his office uprightly, and with a view to the best interests of the country. We shall soon know how far he is capable of bettering the state of things here complained of. In his report to Congress, he makes an extended reference to the Seed Division, and proposes some new measures that he considers desirable. "For a continuation," he says, "of the distribution, as required by the present law, I have submitted the usual estimate."

By reference to the last Report of the Department, that of 1884, we find the amount appropriated for the "purchase and distribution of seeds," &c., is \$75,000, and the whole amount was expended but \$13,52. Of the seeds distributed there were one hundred and twenty-eight varieties of vegetables, which is more than half the number that the largest seed establishments send out. We have positive knowledge that nearly every one of these varieties are well known sorts, not new kinds that require to be tested, in fact, the latter are not desired by the Congressmen who distribute them, as their constituents want the old kinds of approved merit—these are of some value to them to raise crops from, while new kinds would only make trouble, and perhaps be disappointing. The varieties of flower seeds in the same report number one hundred and thirty-one. Of course, these are not new varieties; the trade seldom offers in a single year more than a half dozen at most, and usually a less number of new varieties. The idea of testing new varieties and learning their adaptability to the various parts of the country is lost sight of, and the most perfect end that is now subserved is that of cementing the attachments of the Congressmen, by whom these seeds are distributed, to their country constituents—an indirect draft upon the national treasury for political purposes. Commissioner Coleman suggests the desirability of having the distribution under the control of the Department, and the relation of Congressmen to it to be merely advisory, as they are supposed to know best what persons are most proper to be recipients. It is very evident that this would be only a new method for the same result—a new way of paying old debts. If the Commissioner wants a real reform, instead of asking for \$75,000 for the purchase of seeds, let him cut the amount down to \$10,000, or even to \$5,000, and he will find that the smaller of these amounts will be ample to purchase all the seeds of new varieties of

any value to give the necessary test in every State and Territory of the country, and he will have no trouble either to keep the distribution of them under the control of the Department—but there would be a dismal howl outside, and he must be a man of nerve to do it.

SIR JOSEPH HOOKER.

Sir Joseph Hooker, who, for the last twenty years, has been the Director of Kew Gardens, and was Assistant Director under his father for ten years previous to his appointment, resigned the office in November last. By constant labor for nearly half a century he has attained the distinction which he now enjoys as one of the most eminent of living botanists. Something more than forty-five years ago he went out as assistant surgeon in the expedition of Sir James Ross to the Antarctic regions. On this three years' voyage he collected great quantities of plants, which were faithfully studied and arranged, and resulted in the published Antarctic, New Zealand and Tasmanian floras.

He afterwards traveled and collected in the Himalayas, in Morocco, and, as many of our readers will remember, in company with Dr. Gray, a few years since, made the trip across this country to California. It is said that the "shelves of the Linnean Society groan under the solid and many-volumed evidence of the work which Sir Joseph has done for that science in which he has long been past-master." For twenty years he was engaged with Mr. George Benham in writing the *Genera Plantarum*. His conduct of the Kew Gardens has been in the highest degree satisfactory, and the many improvements introduced by him have elicited unqualified praise. He is now occupied with a Flora of India, which is a colossal work, and his retirement from the directorship will give him more time to devote to it, and he will remain at the Kew Herbarium as a constant worker at his self-imposed task.

MEDICINAL PLANTS.

The December number of the Quarterly, *Drugs and Medicines of North America*, is occupied with the historical and scientific discussion of the botany, pharmacy, chemistry and therapeutics of the plants of the genus *Cimicifuga*. We have not space to notice in detail many interesting features of these plants that are here presented, but will say that the work is one of high merit, containing, as it does, the investigations of many of the ablest scientists, chemists and physicians of the country; and botanists, druggists, and all medical men who desire to be fully informed in regard to the properties of our native plants should receive the quarterly visits of this finely illustrated and beautifully printed magazine in exchange for the one dollar that is modestly asked for it by the publishers, J. U. & C. G. Lloyd, of Cincinnati, Ohio.

PRIZE ESSAYS.

We would call the attention of our readers to the prizes offered in the December number for Essays on Asparagus, Musk Melons, Radishes, Calceolaria, Gloxinia and Cineraria. Essays on these subjects written in competition for the prizes should be sent here by the first of March. The time first announced for the Essay on Radishes was the 20th of January, but it is now postponed until the first of March, with the rest. Full information of the precise nature of the Essays and the prizes, as published on page 392 of the last volume, will be given to all who may request it.